

The Honorable Sonny Perdue  
Secretary of Agriculture  
1400 Independence Avenue, SW  
Washington, DC 20250

The Honorable Alex Azar  
Secretary of Health and Human Services  
200 Independence Avenue, SW  
Washington, DC 20201

August 13, 2020

Dear Secretary Perdue and Secretary Azar:

The American Institute for Cancer Research (AICR) appreciates the opportunity to provide comments to the U.S. Departments of Agriculture and Health and Human Services (the Departments) to inform the development of the 2020-2025 *Dietary Guidelines for Americans* (DGA). Our comments address the conclusions and recommendations in the scientific report of the 2020 Dietary Guidelines Advisory Committee (DGAC), highlight relevant research published by AICR and our sister organization the World Cancer Research Fund (WCRF) and provide recommendations regarding the process for developing the DGA and future actions.

### **Executive Summary**

Overall, AICR supports the findings in the DGAC's report. We are pleased that the DGAC provides recommendations for dietary patterns, rather than individual foods and nutrients, and uses a life course approach that emphasizes the importance of good nutrition across the lifespan. We support the DGAC's recommendation for a healthy dietary pattern consisting of mostly plant-based foods and recommended limits or avoidance of unhealthful components. We also support the Committee's findings on the relationship between dietary patterns and risk of cancer. In particular, we appreciate that the Committee found a strong link between dietary components and colorectal cancer risk; AICR/WCRF's review of colorectal cancer risk shows [strong \(convincing and probable\) evidence](#) that red and processed meat intake is a causative factor in the development of colorectal cancer. We support the DGAC's inclusion of whole grains as a dietary component contributing to better health outcomes, particularly when considered as part of an overall healthy dietary pattern that also includes fruits and vegetables. We additionally recommend that the DGA address the strong evidence for a causative link between overweight/obesity and cancer and highlight the DGAC's conclusion that dietary patterns emphasizing vegetables, fruits, and whole grains, and low in sugar-sweetened foods and beverages and refined grains are associated with reduced risk of obesity and maintaining a healthy body weight. The DGA should emphasize that the greatest health benefits come from following the guidelines as a package instead of individually.

With respect to alcoholic beverages, we are pleased that the DGAC has recommended reducing alcohol consumption in males and emphasize that even moderate alcohol

consumption may be harmful. This change is consistent with AICR's recommendation, which states, "For cancer prevention, it's best not to drink alcohol." There is strong evidence that consumption of alcoholic drinks increases the risk of mouth/pharynx/larynx, esophagus, liver, colorectum, breast (pre- and post-menopausal) and stomach cancers. Less than one standard serving of alcohol per day is enough to significantly increase risk for cancers of the breast, esophagus, and mouth/pharynx/larynx, but cancer risk increases with increased alcohol consumption for every cancer type associated with alcohol consumption.

Regarding added sugars, we support the DGAC's recommendation to reduce intake of added sugars, including changing the recommended limit from no more than 10 percent of total daily caloric intake to no more than 6 percent for ages 2 and older. In particular, intake of sugar-sweetened beverages, the leading source of added sugars, should be reduced. Instead, adults and children should drink mostly water and unsweetened drinks to avoid weight gain, overweight and obesity. We also support the DGAC's recommendation that mothers should breastfeed their baby, if they can, as breastfeeding offers cancer protection for both the mother and the child.

With respect to the DGA development process, we ask the Departments to be transparent and explicit about their rationale to not include conclusions and recommendations drawn by the DGAC in the DGA. Clear, evidence-based recommendations are also needed to inform education, policy and environmental strategies to support Americans in following the DGA. Partnerships with organizations like AICR, with a broad network of health care providers and consumers, can help promote education and the development of resources that translate the guidelines into actionable recommendations. Future research is also needed to help address gaps in the connection between diet and health and support Americans in following the DGA.

## **Background**

AICR is part of the World Cancer Research Fund (WCRF) network and the leading U.S. authority on the links between diet, weight, physical activity and cancer prevention and survival. Our mission is to champion the latest and most authoritative scientific research from around the world on cancer prevention and survival, relevant to these lifestyle factors, to help people make informed choices to reduce their cancer risk.

Since 2007, AICR/WCRF have conducted the Continuous Update Project (CUP) that comprehensively analyzes and synthesizes the global scientific research on the roles of diet, weight, and physical activity in cancer risk and outcomes. The analyses and evidence syntheses are published as Continuous Update Project (CUP) Reports and Expert Reports. The CUP has produced a series of reports on specific cancer sites on an ongoing basis for more than a decade. AICR/WCRF published our Third Expert Report in May 2018, [Diet, Nutrition, Physical Activity and Cancer: a Global Perspective](#). The Third Expert Report and CUP reports rigorously assess the evidence for each exposure through systematic literature reviews, meta-analyses and deliberation by an expert panel. WCRF/AICR CUP is unique in its comprehensive approach and methodological rigor, using *a priori* criteria for its search strategies and validated and tested research protocols. The research is conducted by an independent team and includes applying comprehensive searches for other high-quality meta-analyses and pooling studies. Each phase of the process is externally peer-reviewed, and the conclusions and

recommendations are developed by an independent, multi-disciplinary panel of international experts applying strict criteria for the judging of the evidence.

The conclusions and evidence judgements from the AICR/WCRF CUP are directly relevant to many of the key questions addressed in the 2020 DGAC report.

**Overweight/Obesity:** AICR/WCRF's research concludes that overweight/obesity contribute to the development of [12 separate types of cancer](#), making it the second leading preventable cancer risk factor, after not smoking.

**Dietary Patterns:** The evidence summarized in WCRF/AICR's expert report, *Diet, Nutrition, Physical Activity and Cancer: a Global Perspective*<sup>1</sup>, indicates that a dietary pattern that is high in whole grains, fruit and non-starchy vegetables, low in fast foods (highly processed foods high in fat, starches, or sugars), low in red and processed meats, avoids sugar-sweetened beverages, and includes little or no alcohol consumption provides the most prudent approach to lowering risk of cancer.

**Alcohol:** Systematic literature reviews and meta-analyses conducted as part of WCRF/ AICR's CUP have found strong evidence that consumption of alcoholic drinks increases the risk of six types of cancer,<sup>2</sup> with elevated risk for some cancers with consumption of less than even one serving of alcohol per day.<sup>3</sup>

**Breastfeeding:** AICR/WCRF's research concludes that breastfeeding reduces the risk of breast cancer in the mother and of obesity in the child.<sup>4</sup>

Based on its comprehensive review of the evidence, AICR's 10 Cancer Prevention Recommendations are:

1. Be a healthy weight
2. Be physically active
3. Eat a diet rich in whole grains, vegetables, fruits, and beans
4. Limit consumption of "fast foods" and other processed foods high in fat, starches, or added sugars
5. Limit consumption of red and processed meat
6. Limit consumption of sugar-sweetened drinks
7. Limit alcohol consumption

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<sup>1</sup> WCRF/AICR. *Diet, Nutrition, Physical Activity and Cancer: a Global Perspective*. Continuous Update Project Expert Report 2018. Available at [dietandcancerreport.org](http://dietandcancerreport.org).

<sup>2</sup> WCRF/AICR. Continuous Update Project Expert Report 2018. Alcoholic drinks and the risk of cancer. Available at <https://www.wcrf.org/sites/default/files/Alcoholic-Drinks.pdf>.

<sup>3</sup> WCRF/AICR. The associations between food, nutrition and physical activity and the risk of breast cancer. Updated 2017. Available at <https://www.wcrf.org/sites/default/files/breast-cancer-slr.pdf>, p. 967, 994, 1022; WCRF/AICR. The associations between food, nutrition and physical activity and the risk of mouth, pharynx and larynx cancer. Updated 2016. Available at <https://www.wcrf.org/sites/default/files/Mouth-pharynx-larynx-cancer-slr.pdf>, p. 67; WCRF/AICR. The associations between food, nutrition and physical activity and the risk of oesophageal cancer. Updated 2015. Available at <https://www.wcrf.org/sites/default/files/oesophageal-cancer-slr.pdf>, p. 119, 149, 157, 164.

<sup>4</sup> WCRF/AICR. Continuous Update Project Expert Report 2018. Lactation and the risk of cancer. Available at <https://www.wcrf.org/sites/default/files/Lactation.pdf>; WCRF/AICR. Energy balance and body fatness, p. 83-88.

8. Do not use supplements for cancer prevention
9. For mothers: breastfeed your baby, if you can
10. After a cancer diagnosis: follow our recommendations, if you can

[Evidence](#) shows that adherence to all ten recommendations as a “package”, including those that do not involve diet, provides the most promising results for reduction of cancer risk.<sup>5</sup>

The remainder of our comments are divided into two sections, the first providing comments on the DGAC’s conclusions and recommendations and the second with recommendations on the process for developing the DGA and future actions.

In developing these comments, AICR consulted with several of the leading experts on diet and cancer, including:

Elisa V. Bandera, MD, PhD, Professor and Chief, Cancer Epidemiology and Health Outcomes, Co-leader, Cancer Prevention and Control Program, Rutgers Cancer Institute of New Jersey, Robert Wood Johnson Medical School

Christine Molmenti, PhD, MPH, RD, Assistant Professor, Department of Occupational Medicine, Epidemiology, and Prevention, Donald and Barbara Zucker School of Medicine at Hofstra/Northwell

Marian L. Neuhouser, PhD, RD, Professor, Cancer Prevention Program, Division of Public Health Sciences, Fred Hutchinson Cancer Research Center

Kimberly Robien, PhD, RD, CSO, FAND, Associate Professor, Exercise and Nutrition Sciences, The George Washington University

Fred Tabung, PhD, MSPH, Assistant Professor, College of Medicine, The Ohio State University.

Fang Fang Zhang, PhD, Associate Professor, Friedman School of Nutrition, Tufts University School of Medicine

## **Comments on the DGAC’s Conclusions and Recommendations**

### ***Dietary Patterns and Cancer***

**AICR supports the Committee’s findings on the relationship between dietary patterns and risk of cancer.** The findings stated in the 2020 DGAC Scientific Report, for the four cancer types considered by the DGAC (breast, colorectal, prostate and lung), are largely consistent with analyses of dietary patterns conducted by AICR/WCRF, listed in Table 1, included as an appendix. AICR/WCRF has also found strong (probable) evidence of a link between dietary patterns and endometrial and liver cancers and limited (suggestive) evidence of a link between dietary patterns and prostate cancers, also described in Table 1.

In particular, the Committee found a strong link between dietary components and colorectal cancer risk, a relationship emphasized in our previous [comments](#) to the DGAC. AICR/WCRF’s

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<sup>5</sup> Solans M, Chan DSM, Mitrou P, al. A systematic review and meta-analysis of the 2007 WCRF/AICR score in relation to cancer-related health outcomes. *Ann Oncol* 2020 Mar;31(3):352-368. doi: 10.1016/j.annonc.2020.01.001.

review for colorectal cancer shows [strong \(convincing and probable\) evidence](#) that red and processed meat intake is positively correlated with development of colorectal cancer. Our evidence shows that no amount of processed meat is safe and that these meats should be avoided for cancer prevention. We are pleased that the conclusions in the DGAC's Scientific Report are consistent with these findings and hope that the DGA will reflect this evidence.

Additionally, we fully support the Committee's inclusion of whole grains as a dietary component contributing to better health outcomes, particularly when considered as part of an overall healthy dietary pattern that also includes fruits and vegetables. The Committee found strong evidence that these three dietary components are associated with reduced risk of several diet-related diseases, including colorectal, breast and lung cancers. The conclusions of the DGAC regarding the health benefits of whole grains, fruits, and vegetables mirror those of AICR, and we strongly advocate that this evidence be used in crafting the DGA.

However, we believe that the DGAC's conclusion that animal-source foods increase the risk of breast cancer is too broad and not fully supported by the evidence. **We urge the Departments to separately consider the impact of categories of animal-source foods (e.g., dairy products, seafood, poultry, red meats) when making recommendations regarding these products.** AICR's research has found limited-suggestive evidence that dairy products and foods high in calcium *decrease* the risk of both premenopausal and postmenopausal breast cancer. When considering the evidence regarding other types of animal source foods such as red meat, poultry, fish, seafood, and eggs, and breast cancer risk, there is insufficient evidence or not a clear association.

We strongly suggest that the Departments consider the impact of dietary components on overweight and obesity, and how these diseases can increase cancer risk. As stated in the Scientific Report, more than 70 percent of Americans are living with overweight or obesity. Obesity is [quickly overtaking tobacco](#) as the leading preventable cause of cancer nationwide, putting the immense progress we have made in cancer treatment and prevention at risk. AICR's Third Expert Report shows that overweight/obesity contribute to the development of [12 separate types of cancer](#). While prior Dietary Guidelines have emphasized the impact that overweight and obesity can have on other diseases, such as cardiovascular disease, **the 2020-2025 DGA should also address the strong, direct link between overweight/obesity and cancer.** The conclusions of the 2015 DGAC and the 2020 DGAC that dietary patterns emphasizing vegetables, fruits, and whole grains, and low in sugar-sweetened foods and beverages and refined grains are associated with reduced risk of obesity and a healthy body weight is consistent with AICR's research.<sup>6</sup> A healthy, balanced diet, along with regular physical activity, are the best ways to ensure the prevention of overweight/obesity and, by extension, reduction of cancer risk.

### ***Overarching Conclusions and Recommendations Regarding Dietary Patterns***

AICR appreciates the DGAC's broad focus on dietary patterns, rather than individual foods or nutrients. **We support the DGAC's recommendation for a healthy dietary pattern**

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<sup>6</sup> WCRF/AICR. Continuous Update Project Expert Report 2018. Diet, nutrition and physical activity: Energy balance and body fatness. Available at <https://www.aicr.org/continuous-update-project/reports/energy-balance-report.pdf>.

**consisting of mostly plant-based foods with limits on or avoidance of unhealthy components.**

As mentioned in our [comments to the DGAC](#), AICR fully supports the [definition](#) used by the DGAC in defining dietary patterns: “...*the quantities, proportions, variety, or combination of different foods, drinks, and nutrients (when available) in diets, and the frequency with which they are habitually consumed.*”

AICR’s principles for healthy eating are outlined in our [10 Cancer Prevention Recommendations](#), and they include eating a diet rich in whole grains, vegetables and fruits; limiting consumption of “fast foods” and other processed foods; limiting consumption of red and processed meat; limiting consumption of sugar-sweetened drinks; and limiting alcohol consumption. As noted previously, this type of diet has been shown to reduce the risk of [colorectal](#), [esophageal](#), [mouth](#), [pharynx](#), [larynx](#), [liver](#), [breast](#), [stomach](#) and [endometrial](#) cancers. Diets high in “fast foods” and other components that make up a traditional “Western type” diet have also [been shown](#) to lead to an increase in weight gain, overweight and obesity, which is linked to 12 different types of cancers, as described above.

While each of these recommendations individually lessen risk of cancer, our [evidence](#) shows that adherence to all ten recommendations as a “package”, including those that do not involve diet, provides the most promising results for reduction of cancer risk.<sup>7</sup> We support the DGAC’s recommendation that a healthy dietary pattern must include a higher intake of vegetables, fruits, legumes and whole grains, with minimal intake of red and processed meats, sugar-sweetened foods and beverages and refined grains. For greatest impact, as with AICR’s 10 Cancer Prevention Recommendations, **the DGA should emphasize that the greatest health benefits come from following the guidelines as a package instead of individually.** Additionally, while all three “named” USDA food patterns (Healthy US Style Pattern, Healthy Vegetarian Pattern and Healthy Mediterranean-style Pattern) fit within AICR’s guidelines for a diet high in fruits, vegetables, whole grains, and beans, we also recognize that it is not necessary to follow a “named” dietary pattern in order to achieve maximum health benefits. We recommend that dietary patterns focus on including broad, healthful components such as those listed above.

While we previously submitted [comments](#) to the DGAC summarizing the link between alcohol and eight separate cancers and address the issue in more detail below, we would like to reiterate that alcohol has no place in a cancer-protective diet. As such, **we recommend that the DGA state that alcohol, even in moderation, is not part of a healthy dietary pattern.**

### ***Alcoholic Beverages***

**DGAC has recommended reducing alcohol consumption in males and emphasizes that even moderate alcohol consumption may be harmful. This change is consistent with AICR’s recommendation, which states, “For cancer prevention, it’s best not to drink alcohol.”** This guidance is also consistent with that of the recent American Cancer Society nutrition and physical activity guidelines.<sup>8</sup>

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<sup>7</sup> Solans et al, 2020.

<sup>8</sup> Rock CL, Thomson C, Gansler T, et al. American Cancer Society guideline for diet and physical activity for cancer prevention. *CA Cancer J Clin*; 2020: <https://doi.org/10.3322/caac.21591>.

Research shows that 4.8 percent of cancer cases and 4.3 percent of cancer deaths in men and 6.4 percent of cancer cases and 3.6 percent of cancer deaths in women are due to alcohol consumption, the third leading cancer risk factor in women and the fourth leading risk factor in men.<sup>9</sup> Systematic literature reviews conducted as part of WCRF/AICR's CUP have found strong evidence that consumption of alcoholic drinks increases the risk of mouth/pharynx/larynx, esophageal, liver, colorectal, breast (pre- and post-menopausal) and stomach cancers. Less than one standard serving of alcohol per day is enough to significantly increase risk for cancers of the breast, esophagus, and mouth/pharynx/larynx, and cancer risk increases with increased alcohol consumption for every cancer type associated with alcohol consumption. Risk for these cancers increases by the amount of alcohol consumed. While the DGAC found limited evidence that low average alcohol consumption, particularly without binge drinking, is associated with a lower risk of all-cause mortality compared with never drinking alcohol, the well documented methodological issues that have been raised regarding these studies may lead to misinterpretation. As the DGAC notes, "In light of the many scientific and public health issues associated with alcoholic beverages, any conclusions about low average consumption compared to never drinking alcohol require careful consideration." This research also does not consider the context in which alcohol is consumed, such as whether the alcohol is consumed with a meal or alone.

In addition to directly increasing the risk for six types of cancer, alcoholic beverages also indirectly increase cancer risk by providing excess calories that contribute to obesity and weight gain, the second leading cancer risk factor. As the DGAC report notes, among adults who drink, alcoholic beverages account for about 9 percent of calories. In addition to the alcohol providing about 100 calories per drink, many cocktails are high in added sugars, further increasing the calorie count and contributing to potential weight gain.

We appreciate that the DGAC's recommended change to the alcohol guidance moves in the right direction with respect to the totality of the evidence on the health harms of alcohol consumption. The DGA should acknowledge that for cancer prevention, it's best not to drink alcohol. **Risk for breast cancer and several other cancer types begins to increase even below the current recommended limits of one drink per day for women and two drinks per day for men.**

The guidance that for cancer prevention it's best not to drink alcohol – at all – is a simple public health message given the high variability in alcohol content in a single drink, that different cancers have different thresholds for increased cancer risk, and some cancer types (e.g., breast) do not have thresholds, meaning that even small/moderate amounts may be harmful. This is particularly important as a recent survey of 1,009 U.S. adults found that more than half of respondents did not know that alcohol increases cancer risk.<sup>10</sup> Therefore, addressing the relationship between alcohol and cancer risk in the DGA is important for increasing awareness. **The DGA should also make clear that alcoholic drinks of all types – including beer, wine, and spirits – increase cancer risk.** In addition, the DGA should provide guidance regarding the size of a standard drink, as many glasses contain more than one drink, and the typical calorie content of popular alcoholic beverages. A standard alcoholic drink contains 14 grams of

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<sup>9</sup> Islami F, Sauer AG, Miller K, et al. Proportion and Number of Cancer Cases and Deaths Attributable to Potentially Modifiable Risk Factors in the United States. *CA Cancer J Clin* 2018; 68: 31-54.

<sup>10</sup> AICR. 2019 AICR Cancer Risk Awareness Survey. Available at <https://www.aicr.org/assets/can-prevent/docs/2019-Survey.pdf>.

ethanol, the amount in 12 fluid ounces of 5 percent alcohol by volume (ABV) beer, 5 fluid ounces of 12 percent ABV wine, or 1.5 fluid ounces (a typical shot) of 40 percent ABV (80 proof) distilled spirits.

### ***Non-Alcoholic Beverages and Added Sugars***

**AICR supports the DGAC’s recommendation to reduce intake of added sugars, including changing the recommended limit from ten percent of total daily caloric intake to no more than six percent for ages two and older.** As the DGAC report notes, nearly two-thirds (63 percent) of Americans exceed current recommendations for added sugars. Added sugars provide excess calories without any beneficial nutrients. While AICR’s systematic literature review on dietary patterns and body weight<sup>11</sup> does not include young children, it seems logical that establishing healthy dietary behaviors early in life can support healthy habits and reduce long-term chronic disease risk.

The leading source of added sugars in Americans’ diets is sugar-sweetened drinks.<sup>12</sup> A review conducted as part of the WCRF/AICR’s CUP has found strong evidence that consumption of sugar-sweetened drinks increases the risk of weight gain, overweight and obesity. The evidence for an increased risk of adiposity in both adults and children with increased consumption of sugar-sweetened drinks is strong and consistent.<sup>13</sup>

Based on the totality of the evidence on this topic, including the evidence reviewed by the DGAC, we strongly suggest that the DGA recommend limiting consumption of sugar-sweetened drinks. Instead, adults and children should drink mostly water and unsweetened drinks to avoid weight gain, overweight and obesity.

In addition, the DGAC concluded that children commonly consume a portion of their fruit intake through fruit juices. AICR recommends that the DGA clearly state that fruit juices should not be consumed in large quantities, even 100% juices that do not contain added sugar, as they may promote weight gain in a similar way to sugar-sweetened drinks. AICR recommends that no more than one serving of 100% fruit or vegetable juice per day count toward daily fruit and vegetable consumption.

Due to current intakes exceeding the limit for added sugars, we support the advice from the DGAC to encourage the Departments to not only include the recommendation to limit added sugars to no more than six percent for those ages 2 and older, but to caution against excessive consumption of sources of added sugars such as sugar-sweetened beverages. Supporting a diet that is primarily comprised of minimally processed, plant-based foods may lead to a reduction in added sugars consumption. Consumer education is needed to increase awareness

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<sup>11</sup> WCRF/AICR. Continuous Update Project Expert Report 2018. Diet, nutrition and physical activity: Energy balance and body fatness. Available at <https://www.aicr.org/continuous-update-project/reports/energy-balance-report.pdf>.

<sup>12</sup> HHS and USDA. Figure 2-10: Food Category Sources of Added Sugars in the U.S. Population Ages 2 and Older. *Dietary Guidelines for Americans, 2015-2020*. Available at <https://health.gov/dietaryguidelines/2015/guidelines/chapter-2/a-closer-look-at-current-intakes-and-recommended-shifts/#figure-2-10-food-category-sources-of-added-sugars-in-the-us-popu>.

<sup>13</sup> WCRF/AICR. Continuous Update Project Expert Report 2018. Diet, nutrition and physical activity: Energy balance and body fatness. Available at <https://www.aicr.org/continuous-update-project/reports/energy-balance-report.pdf>.

of the amount of added sugar that corresponds to the six percent limit and the contribution that certain foods and beverages make towards that limit. Tools and resources and policy shifts will be needed to help consumers lower their intake of added sugars to meet evidence-based recommendations.

### ***Breastfeeding***

**AICR strongly supports the DGAC’s recommendation that mothers should breastfeed their baby, if they can, as breastfeeding can offer cancer protection for both the mother and the child.**<sup>14</sup> Multiple studies have shown a marked decrease in breast cancer risk for the mother per five-month increase in breastfeeding duration.<sup>15</sup> Although this reduction is modest, it adds to the growing literature that breastfeeding can assist in preventing the development of chronic diseases in women postpartum. Breastfeeding can also help to prevent excess weight gain in the child, which lowers their cancer risk as adults.<sup>16</sup> As stated previously, having overweight or obesity is one of the leading causes of preventable cancers. For these reasons, AICR supports the DGAC’s recommendation that mothers breastfeed exclusively for the first six months of a child’s life followed by continued breastfeeding with the introduction of complementary foods and beverages at ages 6-12 months.

## **Comments on the DGA Development Process and Future Actions**

### ***Transparency***

One of the broad principles of the 2017 National Academies of Sciences, Engineering, and Medicine (NASEM) report on Redesigning the Process to Update the Dietary Guidelines was to increase transparency in the process. Specifically, **the NASEM report recommended that, “The Secretaries of USDA and HHS should provide the public with a clear explanation when the DGA omit or accept only parts of conclusions from the scientific report.”**<sup>17</sup> **We strongly agree with this recommendation and ask the Departments to implement it in developing the DGA.** Given the compressed timeline and the complexity of the questions to be addressed by the DGAC, the Committee should be congratulated on the reviews of the research and the development of evidence-based recommendations. Their recommendations should be incorporated into the DGA as much as possible. If the Departments choose to depart from any of the recommendations, the Departments should explicitly state their rationale for doing so.

### ***Increasing Adherence to the DGA***

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<sup>14</sup> WCRF/AICR. Continuous Update Project Expert Report 2018. Lactation and the risk of cancer. Available at <https://www.wcrf.org/sites/default/files/Lactation.pdf>; WCRF/AICR. Energy balance and body fatness, p. 83-88.

<sup>15</sup> WCRF/AICR. Continuous Update Project Expert Report 2018. Diet, nutrition, physical activity and breast cancer. Available at <https://www.aicr.org/continuous-update-project/reports/breast-cancer-report-2017.pdf>, p. 90–91.

<sup>16</sup> WCRF/AICR. Continuous Update Project Expert Report 2018. Diet, nutrition and physical activity: Energy balance and body fatness. Available at <https://www.aicr.org/continuous-update-project/reports/energy-balance-report.pdf>, p. 83–88.

<sup>17</sup> National Academies of Sciences, Engineering, and Medicine. 2017. *Redesigning the process for establishing the Dietary Guidelines for Americans*. Washington, DC: The National Academies Press. doi: <https://doi.org/10.17226/24883>. p. 12.

Publishing the DGA is only the first step in aiming to improve dietary patterns and eating behaviors to ultimately reduce diet-related chronic diseases. Unfortunately, most Americans do not follow the current Dietary Guidelines and additional work is needed to improve adherence to them. **The DGA should provide clear, evidence-based recommendations for educational and policy, systems and environmental change strategies aimed at increasing adherence to the DGA.**

The DGAC noted that “dietary recommendations are only as good as the level of adherence to them, and respecting culture-based preferences with relevant eating patterns should help improve adherence and health outcomes.” The dietary patterns recommended by the DGAC are flexible enough that they can be adjusted to different cultures. The Departments must consider how culture-based preferences drive food choices and dietary patterns so that all populations can meet the nutritional recommendations set forth by the DGA.

Understanding how social determinants of health interact with the DGA should be a high priority for the Departments. The DGAC stated that understanding the interrelationships between chronic diseases and social determinants of health is critical in improving dietary patterns. Factors such as environmental settings, food accessibility, food availability, and food affordability play a role in diet quality, dietary patterns and eating behaviors. These factors greatly influence the risk of diet-related chronic diseases. The Departments must address social determinants of health and collaborate with partners in both the public and private sectors to reduce social barriers to achieving a healthy diet.

In addition to addressing social determinants of health, the DGAC highlighted the importance of the socioecological model to improve diet quality. The socioecological model can positively influence diet by incorporating behavior change strategies. A social-ecological model for food and physical activity decisions that highlights the influence of social and cultural norms and values, sectors, settings and individual factors is included in the current DGA. The Departments should include a similar model in the upcoming DGA and utilize it to promote adherence to the DGA. They should also engage with and utilize the expertise of researchers, organizations and others to promote and advance behavior change. In particular, Registered Dietitians can play a key role in helping people follow a diet consistent with the DGA.

The DGAC carefully considered the immense impact their recommendations would have on individual eating habits and broad policy, systems and environmental change. The DGA inform U.S. federal nutrition policy and programs that affect nearly every American. The DGAC notes several ways the Departments can adopt strategies to align with the DGA to improve the health of Americans. Some of these strategies include more support for nutrition counseling and education through federal nutrition programs such as WIC and SNAP-Ed. Additionally, the Departments should not undermine the guidelines themselves. Programs that are operated by USDA and other federal agencies should align meal pattern requirements with the DGA.

Collaborating with the private sector, other federal agencies and nonprofit organizations is imperative in helping Americans meet nutrition recommendations. Organizations like AICR can provide education and resources that translate the guidelines into actionable recommendations for the general population through their broad network of health care providers and consumers. The Departments can also work to create valuable partnerships with retailers and food

manufacturers to market healthful foods more often than unhealthy foods and competitively price healthy foods and beverages. The Departments should also work with food assistance providers such as food banks, pantries or others to support the distribution of healthful foods to families and individuals, and with providers, payers, patient advocates and others in the health care system to better incorporate nutrition into health care system policies and services. The Departments should proactively engage these stakeholders and others following the publication of the DGA to help put their recommendations into action.

### ***Recommendations for Future Research***

As the DGAC noted, more research is needed to help address gaps in the connection between diet and health and to support Americans in following the evidence-based guidance. **We ask that the DGA recommend that the following topics be prioritized for future research:**

- The impact of healthy dietary patterns across the life course, including on long-term risk for chronic diseases such as cancer;
- The impact of diet on obesity-related cancers, particularly in younger populations;
- The relationship between consumption of foods with various degrees of processing and health outcomes, including overweight/obesity and cancer;
- The impact of diet, alcohol use, and obesity on risk and complications of serious infectious diseases such as COVID-19;
- The impact of moderate alcohol intake on various health outcomes, including cancer risk, and whether the relationship varies by sex, individual susceptibilities, (e.g. genetic factors, microbiome affecting absorption) or the context in which alcohol is consumed (e.g., alone vs with food, binge drinking vs spread out throughout the week);
- How genetic variation in alcohol metabolism pathways and body composition may modify the association between alcohol intake and cancer risk;
- Improved methods for dietary assessment;
- Strategies for increasing adherence to the DGA, particularly among the most vulnerable populations, and the cost and cost-effectiveness of such strategies;
- The impact of adhering to the DGA among average- and high-risk populations;
- Strategies for integrating nutrition into health care;
- Of the many changes needed to align Americans' diets with the DGA, which should be priorities for behavior change.

While it is important that the DGA acknowledge the limitations of nutrition research, such as the impracticality of randomized clinical trials, the Departments should emphasize that the Guidelines are based on the best evidence currently available. As new research is conducted, future iterations of the Guidelines should reflect the new knowledge. It is important for health care professionals, policymakers, and the public to have confidence in the Guidelines. The DGA can also help to inform the research agenda for other federal agencies and private funders.

### ***Conclusion***

In conclusion, we thank the Departments for considering our comments. The importance of good nutrition is particularly apparent during the current COVID-19 crisis, as people with obesity, cancer and other diet-related diseases who contract the virus are more likely to suffer

worse outcomes.<sup>18</sup> It is imperative, now more than ever, for the DGA to be consistent with current nutrition science and help Americans improve their diets and long-term health.

We welcome the opportunity to serve as a resource as you develop the DGA. If you have any questions or we can provide any additional information, please contact Deirdre McGinley-Gieser, AICR's Senior Vice President of Programs and Strategic Planning, at [d.mcginley-gieser@aicr.org](mailto:d.mcginley-gieser@aicr.org) or 703-237-0159.

Sincerely,



Kelly B. Browning  
Chief Executive Officer  
American Institute for Cancer Research

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<sup>18</sup> Centers for Disease Control and Prevention. Coronavirus Disease 2019: People With Certain Medical Conditions. Updated July 20, 2020. Available at <https://www.cdc.gov/coronavirus/2019-ncov/need-extra-precautions/people-with-medical-conditions.html>. Accessed August 5, 2020.

**Table 1: Comparison of 2015 DGAC's with AICR/ WCRF's Conclusions and Evidence Grades Regarding Diet and Cancer and Alcohol and Cancer**

		NESR Evidence			AICR/WCRF Evidence			KEY DIFFERENCES
Cancer Type	Research Question	Link to 2015 NESR	NESR Conclusion Statement	NESR Grade	AICR/WCRF Conclusion Statement	AICR/WCRF Grade	Link to AICR/WCRF Systematic Literature Review	Comparison
Breast cancer	What is the relationship between dietary patterns and risk of breast cancer?	<a href="https://nesr.usda.gov/what-relationship-between-dietary-patterns-and-risk-breast-cancer#fullreview">https://nesr.usda.gov/what-relationship-between-dietary-patterns-and-risk-breast-cancer#fullreview</a>	Moderate evidence indicates that dietary patterns rich in vegetables, fruit and whole grains, and lower in animal products and refined carbohydrate, are associated with reduced risk of postmenopausal breast cancer. The data regarding this dietary pattern and premenopausal breast cancer risk point in the same direction, but the evidence is limited due to fewer studies.	Postmenopausal breast cancer risk: Moderate Premenopausal breast cancer risk: Limited	For premenopausal breast cancer, there is limited-suggestive evidence that nonstarchy vegetables, dairy products, foods containing carotenoids and diets high in calcium decrease risk for breast cancer. For postmenopausal breast cancer, there is limited-suggestive evidence that non-starchy vegetables, foods containing carotenoids and diets high in calcium decrease risk for breast cancer.	Limited-Suggestive	<a href="#">Breast Cancer SLR</a>	AICR/WCRF and NESR's reviews of breast cancer and dietary patterns are similar.
Colorectal cancer	What is the relationship between dietary patterns and risk of colorectal cancer?	<a href="https://nesr.usda.gov/what-relationship-between-dietary-patterns-and-risk-colorectal-cancer#plain-summary">https://nesr.usda.gov/what-relationship-between-dietary-patterns-and-risk-colorectal-cancer#plain-summary</a>	Moderate evidence indicates an inverse association between dietary patterns that are higher in vegetables, fruits, legumes, whole grains, lean meats and seafood, low fat dairy and moderate alcohol; and low in red and processed meats, saturated fat and sodas and sweets relative to other dietary patterns and the risk of colon and rectal cancer. Conversely, diets that are higher in red and processed meats, French fries and potatoes, and sources of sugars (i.e., sodas, sweets and dessert foods) are associated with a greater colon and rectal cancer risk.	Moderate	AICR has strong-probable evidence showing that wholegrains, foods containing dietary fiber, dairy products and calcium supplements decrease the risk of colorectal cancer. We have strong-convincing evidence that processed meat increases risk of colorectal cancer. We have strong-probable evidence that red meat increases the risk of colorectal cancer.	Strong-Convincing; Strong- Probable	<a href="#">Colorectal Cancer SLR</a>	AICR/WCRF shows strong evidence for dietary components that both increase and decrease the risk for colorectal cancer.
Prostate cancer	What is the relationship between dietary patterns and risk of prostate cancer?	<a href="https://nesr.usda.gov/what-relationship-between-dietary-patterns-and-risk-prostate-cancer#plain-summary">https://nesr.usda.gov/what-relationship-between-dietary-patterns-and-risk-prostate-cancer#plain-summary</a>	No conclusion can be drawn regarding the relationship between dietary patterns and the risk of prostate cancer. This is due to limited evidence from a small number of studies with wide variation in study design, dietary assessment methodology and prostate cancer outcome ascertainment.	Grade not assignable	AICR has limited-suggestive evidence that dairy products and diets high in calcium increase the risk for prostate cancer.	Limited-Suggestive	<a href="#">Prostate Cancer SLR</a>	AICR/WCRF and NESR's reviews of prostate cancer and dietary patterns are similar.
Lung cancer	What is the relationship between dietary patterns and risk of lung cancer?	<a href="https://nesr.usda.gov/what-relationship-between-dietary-patterns-and-risk-lung-cancer#plain-summary">https://nesr.usda.gov/what-relationship-between-dietary-patterns-and-risk-lung-cancer#plain-summary</a>	Limited evidence from a small number of studies suggests a lower risk of lung cancer associated with dietary patterns containing more frequent servings of vegetables, fruits, seafood, grains and cereals, legumes and lean vs. higher fat meats and lower fat or non-fat dairy products. Despite reported modest significant reductions in risk, definitive conclusions cannot be established at this time because of the small number of articles, as well as wide variation in study design, dietary assessment and case ascertainment.	Limited	AICR has limited-suggestive evidence that vegetables, fruit, foods containing carotenoids, foods containing beta carotene, foods containing retinol, foods containing vitamin C and foods containing isoflavones decrease the risk for lung cancer. AICR has limited-suggestive evidence that red and processed meat increases the risk for lung cancer.	Limited-Suggestive	<a href="#">Lung Cancer SLR</a>	AICR/WCRF and NESR's reviews of lung cancer and dietary patterns are similar.
Cancer Type	Research Question	Cancers Not Examined by 2015 DGAC			AICR/WCRF Conclusion Statement	AICR/WCRF Grade	Link to AICR/WCRF Systematic Literature Review	Key Findings
Pancreatic Cancer					AICR has limited-suggestive evidence that red meat, processed meat, foods and beverages containing fructose and foods containing saturated fatty acids increase the risk for pancreatic cancer.	Limited-Suggestive	<a href="#">Pancreatic Cancer SLR</a>	AICR/WCRF shows limited-suggestive evidence that dietary patterns have a substantial effect on pancreatic cancer.
Endometrial Cancer					AICR has strong-probable evidence that coffee decreases risk for endometrial cancer. AICR has strong-probable evidence that glycemic load increases the risk of endometrial cancer.	Strong-Probable	<a href="#">Endometrial Cancer SLR</a>	AICR/WCRF shows strong-probably evidence for dietary components that both increase and decrease the risk for endometrial cancer.
Liver Cancer					AICR has strong-probable evidence that coffee decreases the risk of liver cancer.	Strong-Probable	<a href="#">Liver Cancer SLR</a>	AICR/WCRF shows strong-probable evidence that coffee is strongly linked to reduced risk of liver cancer.
Exposure	Research Question	Exposures Not Examined by 2015 DGAC			AICR/WCRF Conclusion Statement	AICR/WCRF Grade	Link to AICR/WCRF Systematic Literature Review	Key Findings
Alcohol	What is the relationship between alcohol consumption and risk of certain types of cancer?				AICR has strong-convincing evidence that alcoholic drinks increases the risk of the following types of cancers: mouth, pharynx, larynx, esophagus, liver, colorectum and breast (postmenopause). AICR has strong-probable evidence that alcoholic drinks increase the risk of the following types of cancers: stomach, breast (premenopause).	Strong-Convincing Strong-Probable	<a href="#">Mouth, Pharynx, Larynx SLR</a> <a href="#">Esophageal Cancer SLR</a> <a href="#">Liver Cancer SLR</a> <a href="#">Colorectal Cancer SLR</a> <a href="#">Breast Cancer SLR</a> <a href="#">Stomach Cancer SLR</a>	AICR/WCRF's literature review has shown that alcohol is strongly linked to the development of six separate cancers. <b>We recommend the committee advise that, for cancer prevention, it is best to not drink alcohol.</b>

**Table 1: Comparison of 2020 DGAC's Conclusions with AICR/ WCRF's Conclusions and Evidence Grades Regarding Dietary Patterns and Cancer and Alcohol and Cancer**

		NESR Evidence				AICR/WCRF Evidence			KEY DIFFERENCES	
Cancer Type	Research Question	Link to 2015 NESR	2015 Conclusion Statement	2015 NESR Grade	2020 Conclusion Statement	2020 NESR Grade	AICR/WCRF Conclusion Statement	AICR/WCRF Grade	Link to AICR/WCRF Systematic Literature Review	Comparison
Breast cancer	What is the relationship between dietary patterns and risk of breast cancer?	<a href="https://nesr.usda.gov/what-relationship-between-dietary-patterns-and-risk-breast-cancer#fullreview">https://nesr.usda.gov/what-relationship-between-dietary-patterns-and-risk-breast-cancer#fullreview</a>	Moderate evidence indicates that dietary patterns rich in vegetables, fruit and whole grains, and lower in animal products and refined carbohydrate, are associated with reduced risk of postmenopausal breast cancer. The data regarding this dietary pattern and premenopausal breast cancer risk point in the same direction, but the evidence is limited due to fewer studies.	Postmenopausal breast cancer risk: Moderate Premenopausal breast cancer risk: Limited	Moderate evidence indicates that dietary patterns rich in vegetables, fruits, and whole grains, and lower in animal-source foods and refined carbohydrates, are associated with reduced risk of postmenopausal breast cancer. The data regarding these dietary patterns and premenopausal breast cancer risk point in the same direction, but the evidence is limited as fewer studies include premenopausal breast cancer.	Moderate-postmenopausal breast cancer risk, Limited-premenopausal breast cancer risk	For premenopausal breast cancer, there is limited-suggestive evidence that nonstarchy vegetables, dairy products, foods containing carotenoids and diets high in calcium decrease risk for breast cancer. There is also strong-probable evidence that alcohol increases risk for premenopausal breast cancer. For postmenopausal breast cancer, there is limited-suggestive evidence that non-starchy vegetables, foods containing carotenoids and diets high in calcium decrease risk for breast cancer.  There is strong-convincing evidence that alcohol increases risk for breast cancer.	For dietary patterns, limited-suggestive. For alcohol, strong-convincing and strong-probable.	<a href="#">Breast Cancer SLR</a>	AICR/WCRF shows strong evidence that alcohol increases the risk of breast cancer. NESR reviews show only moderate evidence that this link exists. <b>We recommend the committee advise that, for cancer prevention, it is best not to drink alcohol.</b>
Colorectal cancer	What is the relationship between dietary patterns and risk of colorectal cancer?	<a href="https://nesr.usda.gov/what-relationship-between-dietary-patterns-and-risk-colorectal-cancer#plain-summary">https://nesr.usda.gov/what-relationship-between-dietary-patterns-and-risk-colorectal-cancer#plain-summary</a>	Moderate evidence indicates an inverse association between dietary patterns that are higher in vegetables, fruits, legumes, whole grains, lean meats and seafood, low-fat dairy and moderate alcohol; and low in red and processed meats, saturated fat and sodas and sweets relative to other dietary patterns and the risk of colon and rectal cancer. Conversely, diets that are higher in red and processed meats, French fries and potatoes, and sources of sugars (i.e., sodas, sweets and dessert foods) are associated with a greater colon and rectal cancer risk.	Moderate	Moderate evidence indicates that dietary patterns higher in vegetables, fruits, legumes, whole grains, lean meats and seafood, and low-fat dairy and low in red and processed meats, saturated fat and sugar-sweetened beverages and sweets relative to other dietary patterns are associated with lower risk of colon and rectal cancer.  Moderate evidence also indicates that dietary patterns that are higher in red and processed meats, French fries, potatoes, and sources of sugars (e.g., sugar-sweetened beverages, sweets and dessert foods) are associated with a greater colon and rectal cancer risk.	Moderate	AICR has strong-probable evidence showing that wholegrains, foods containing dietary fiber, dairy products and calcium supplements decrease the risk of colorectal cancer. We have strong-convincing evidence that processed meat increases risk of colorectal cancer. We have strong-probable evidence that red meat increases the risk of colorectal cancer.  We have strong-convincing evidence that alcohol increases colorectal cancer risk.	Strong-Convincing; Strong- Probable	<a href="#">Colorectal Cancer SLR</a>	AICR/WCRF shows strong evidence that wholegrains, foods containing dietary fiber, dairy products and calcium supplements decrease colorectal cancer risk. AICR/WCRF also shows strong evidence that processed and red meats increase the risk of colorectal cancer. NESR reviews only show moderate evidence that this link exists. <b>We recommend the committee advise that, for cancer prevention, adults should consume only moderate amounts of red meat and little, if any processed meat, and avoid alcohol entirely.</b>
Prostate cancer	What is the relationship between dietary patterns and risk of prostate cancer?	<a href="https://nesr.usda.gov/what-relationship-between-dietary-patterns-and-risk-prostate-cancer#plain-summary">https://nesr.usda.gov/what-relationship-between-dietary-patterns-and-risk-prostate-cancer#plain-summary</a>	No conclusion can be drawn regarding the relationship between dietary patterns and the risk of prostate cancer. This is due to limited evidence from a small number of studies with wide variation in study design, dietary assessment methodology and prostate cancer outcome ascertainment.	Grade not assignable	Limited evidence suggests that dietary patterns containing more frequent servings of vegetables, fruits, seafood, grains and cereals, legumes and lean vs higher fat meats and lower fat or non-fat dairy products may be associated with lower risk of lung cancer, primarily among former smokers and current smokers	Limited	AICR has limited-suggestive evidence that dairy products and diets high in calcium increase the risk for prostate cancer.  AICR has limited-no conclusion evidence that alcohol has an effect on prostate cancer risk.	Limited-Suggestive Limited-No conclusion	<a href="#">Prostate Cancer SLR</a>	AICR/WCRF and NESR's reviews of prostate cancer and dietary patterns are similar.
Lung cancer	What is the relationship between dietary patterns and risk of lung cancer?	<a href="https://nesr.usda.gov/what-relationship-between-dietary-patterns-and-risk-lung-cancer#plain-summary">https://nesr.usda.gov/what-relationship-between-dietary-patterns-and-risk-lung-cancer#plain-summary</a>	Limited evidence from a small number of studies suggests a lower risk of lung cancer associated with dietary patterns containing more frequent servings of vegetables, fruits, seafood, grains and cereals, legumes and lean vs. higher fat meats and lower fat or non-fat dairy products. Despite reported modest significant reductions in risk, definitive conclusions cannot be established at this time because of the small number of articles, as well as wide variation in study design, dietary assessment and case ascertainment.	Limited	Limited evidence suggests no relationship between dietary patterns and risk of prostate cancer.	Limited	AICR has limited-suggestive evidence that vegetables, fruit, foods containing carotenoids, foods containing beta carotene, foods containing retinol, foods containing vitamin C and foods containing isoflavones decrease the risk for lung cancer. AICR has limited-suggestive evidence that red and processed meat increases the risk for lung cancer.  AICR has limited-suggestive evidence that alcohol increases risk for lung cancer.	Limited-Suggestive	<a href="#">Lung Cancer SLR</a>	AICR/WCRF and NESR's reviews of lung cancer and dietary patterns are similar.
Cancer Type	Research Question	Cancers Not Evaluated by 2015 or 2020 DGAC				AICR/WCRF Conclusion Statement	AICR/WCRF Grade	Link to AICR/WCRF Systematic Literature Review	Key Findings	
Pancreatic Cancer						AICR has limited-suggestive evidence that red meat, processed meat, foods and beverages containing fructose and foods containing saturated fatty acids increase the risk for pancreatic cancer.	Limited-Suggestive	<a href="#">Pancreatic Cancer SLR</a>	AICR/WCRF shows limited-suggestive evidence that dietary patterns have a substantial effect on pancreatic cancer.	
Endometrial Cancer						AICR has strong-probable evidence that coffee decreases risk for endometrial cancer. AICR has strong-probable evidence that glycemic load increases the risk of endometrial cancer.	Strong-Probable	<a href="#">Endometrial Cancer SLR</a>	AICR/WCRF shows strong-probable evidence for dietary components that both increase and decrease the risk for endometrial cancer.	
Liver Cancer						AICR has strong-probable evidence that coffee decreases the risk of liver cancer.	Strong-Probable	<a href="#">Liver Cancer SLR</a>	AICR/WCRF shows strong-probable evidence that coffee is strongly linked to reduced risk of liver cancer.	
Exposure	Research Question	Exposures Not Evaluated by 2015 or 2020 DGAC				AICR/WCRF Conclusion Statement	AICR/WCRF Grade	Link to AICR/WCRF Systematic Literature Review	Key Findings	
Alcohol	What is the relationship between alcohol consumption and risk of certain types of cancer?					AICR has strong-convincing evidence that alcoholic drinks increases the risk of the following types of cancers: mouth, pharynx, larynx, esophagus, liver, colorectum and breast (postmenopause). AICR has strong-probable evidence that alcoholic drinks increase the risk of the following types of cancers: stomach, breast (premenopause).	Strong-Convincing Strong-Probable	<a href="#">Mouth, Pharynx, Larynx SLR</a> <a href="#">Esophageal Cancer SLR</a> <a href="#">Liver Cancer SLR</a> <a href="#">Colorectal Cancer SLR</a> <a href="#">Breast Cancer SLR</a> <a href="#">Stomach Cancer SLR</a>	AICR/WCRF's literature review has shown that alcohol is strongly linked to the development of six separate cancers. <b>We recommend the committee advise that, for cancer prevention, it is best not to drink alcohol.</b>	